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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--------------------------|-------------|----------------------|---------------------|------------------|
| 09/888,689 | 06/25/2001 | Phillip E. Byrd | 4715US (00-1057) | 1027 |
| 24247 | 7590 | 05/13/2004 | EXAMINER | |
| TRASK BRITT | | | CHANG, RICK KILTAE | |
| P.O. BOX 2550 | | | | |
| SALT LAKE CITY, UT 84110 | | | ART UNIT | PAPER NUMBER |
| | | | 3729 | |

DATE MAILED: 05/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/888,689 | BYRD, PHILLIP E. |
| | Examiner | Art Unit |
| | Rick K. Chang | 3729 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 14 April 2004.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-55 is/are pending in the application.
 - 4a) Of the above claim(s) 6-55 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-5 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over D'Souza (US 5,323,107) in view of Bierig (US 4,089,734), and further in view of Rostoker et al (US 5,838,163), Degani et al (US 6,370,766) and Piccone et al (US 3,581,160).

D'Souza discloses in Fig. 1B substantially all the claimed limitations. Fig. 2 discloses supplying a test signal and receiving a test signal by probe elements. L1 . . . L4 are fuse elements.

D'Souza fails to disclose disposing at least some of the fuse elements immediately adjacent the at least one of the first and second surfaces and providing active fuse elements repairable fuse elements after being tripped, and each fuse element of the plurality of fuse elements for limiting the current level thereof to one of an absolute maximum current level for the probe card without substantial damage thereto and an absolute current level for use in the testing of a semiconductor device without substantial damage thereto.

Bierig discloses disposing at least some of the fuse elements immediately adjacent the at least one of the first and second surfaces (Figs. 4A-4B) and providing repairable fuse elements after being tripped (Figs. 3A-3C shows fuse elements (39) are formed using a deposition process, as well as configured as shown in Fig. 3C to be repairable).

Rostoker discloses at least some of the plurality of fuse elements comprising at least an active fuse element (col. 23, lines 62-63).

Piccone discloses that each fuse element of the plurality of fuse elements for limiting the current level thereof to one of an absolute maximum current level for the probe card without substantial damage thereto (col. 5, lines 9-18).

Degani discloses that an absolute current level for use in the testing of a semiconductor device without substantial damage thereto (col. 5, lines 46-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify D'Souza by disposing at least some of the fuse elements immediately adjacent the at least one of the first and second surfaces and providing repairable fuse elements after being tripped, as taught by Bierig, for the purpose of shortening the length of the electrical communication between the probe and the fuse for faster reaction and saving money by repairing damaged components.

Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify D'Souza by providing at least some of the plurality of fuse elements comprising at least an active fuse element, as taught by Rostoker, for the purpose of stop conducting electric currents at a certain level without melting or vaporizing the fuse.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify D'Souza by each fuse element of the plurality of fuse elements for limiting the current level thereof to one of an absolute maximum current level for the probe card without substantial damage thereto and an absolute current level for use in the testing of a semiconductor device without substantial damage thereto, as taught by Degani and Piccone, for

the purpose of reusing the device for testing other electronic devices and saving production costs by eliminating bad electronic devices.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over D'Souza (US 5,323,107)/Bierig (US 4,089,734)/Rostoker et al (US 5,838,163)/Degani et al (US 6,370,766)/Piccone et al (US 3,581,160) as applied to claims 1 and 3 above, and further in view of Maruyama et al (US 5,832,595).

D'Souza/Bierig/Rostoker/Degani/Piccone fail to disclose forming the fuse elements from copper.

Maruyama discloses forming the fuse elements from copper (Fig. 6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify D'Souza/Bierig/Rostoker/Degani/Piccone by forming the fuse elements from copper, as taught by Maruyama, for the purpose of saving production cost by using readily available and cheap material with good electrical conductivity characteristic.

Response to Arguments

4. Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

Interviews After Final

5. **Applicant note that an interview after a final rejection must be submitted briefly in writing the intended purpose and content of the interview (the agenda of the interview must be in writing). Upon review of the agenda, the Examiner may grant the interview if the examiner is convinced that disposal or clarification for appeal may be accomplished**

with only nominal further consideration. Interviews merely to restate arguments of record or to discuss new limitations will be denied. See MPEP 714.13 and 713.09.

Conclusion

6. **Please provide reference numerals (either in parentheses next to the claimed limitation or in a table format with one column listing the claimed limitation and another column listing corresponding reference numerals in the remark section of the response to the Office Action) to all the claimed limitations as well as support in the disclosure for better clarity (optional).** Applicants are duly reminded that a full and proper response to this Office Action that includes any amendment to the claims and specification of the application as originally filed requires that the applicant point out the support for any amendment made to the disclosure, including the claims. See 37 CFR 1.111 and MPEP 2163.06.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick K. Chang whose telephone number is (703) 308-4784. The examiner can normally be reached on 5:30 AM to 1:30 PM, Monday through Thursday.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.



RICHARD CHANG
PRIMARY EXAMINER

RC
May 12, 2004